Serial No.: 10/518,569
Art Unit 2411
Final Office Action dated: April 27, 2010

PU020298
CUSTOMER NO.: 24498

Remarks/Arguments

The final Office Action ("Office Action") indicates that claims 1, 4-10, and 12-14 remain pending and stand rejected. Claims 1, 10, and 12 are independent. Applicants have amended claims 1, 5, 8-10, and 12 for clarification purposes. In particular, amended claims 1 and 10 now include features of claim 4 and independent claim 12 now includes features of claim 13. To that end, applicants have cancelled claims 4 and 13 along with Claims 2, 3 which applicants had previously cancelled.

Claim Objections

The examiner objects to claims 1, 10, and 12 and requires that applicants define the acronym "AES" in the claims. Applicants have now defined the acronym in the claims and respectfully request the withdrawal of the objection.

Claim Rejections under 35 U.S.C. § 103

Claims 1, 4, and 5 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Adams (WO98/16040, "Adams") and Knapp (US 6,005,904, "Knapp"), further in view of Lydon (US 6,757,302, "Lydon"). Claims 6-9 stand rejected over Adams, Knapp, and Lydon, and further in view of Lyle (US 7,295,578, "Lyle"). Claim 10 over Scott (US 6,654,409, "Scott") in view of Adams. Claims 12-14 over Fuller (US 7,662,021, "Fuller") in view of Lydon. Applicants respectfully traverse these rejections.

In re Wada and Murphy, Appeal 2007-3733, the BPAI stated that:

> When determining whether a claim is obvious, an examiner must make "a searching comparison of the claimed invention – *including all its limitations* – with the teaching of the prior art." *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis added). Thus, "obviousness requires a suggestion of all limitations in a claim." *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (*citing In re Royka*, 490 F.2d 981, 985 (CCPA 1974)). Moreover, as the Supreme Court recently stated, "*there must be some articulated reasoning* with some rational underpinning to support the legal conclusion of

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obviousness." *KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) (quoting In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006) (emphasis added)).

Applicants' specification as originally filed makes very clear that serial digital audio decoders extract little, if any, timing information from a stream of digital audio data (page 1, lines 22-25). Applicants' disclosure includes a method for extracting time information from an Audio Engineering Society (AES) digital audia data stream which could be used by an AES decoder to decode the received stream (Page 11, lines 18-20).

For example, Applicants' amended claim 1 requires:

> A method for extracting selected time information from a stream of serialized Audio Engineering Society (AES) digital audio data, comprising:
> detecting, by a broadcast router, a first transition indicative of a first preamble of said stream of serialized AES digital audio data;
> detecting, by the broadcast router, a second transition indicative of a subsequent preamble of said serialized AES digital audio data;
> *determining a clock pulse count separating said first preamble and said subsequent preamble*; and
> *transferring the determined clock pulse count as a time to a decoding logic circuit for decoding said stream of serialized AES digital audio data by utilizing the determined time*. Emphasis added.

As discussed in the Office Action, page 7, Adams describes that each preamble begins with a violation of the biphase-mark encoding rule. The Office Action states: "Thus each preamble begins with a violation to distinguish the preamble from any other event in the data stream." Adams allegedly uses this violation to distinguish the preamble from other events in the data stream and therefore does not teach or even suggest the claimed features of determining a clock pulse count separating said first preamble and said subsequent preamble and transferring the determined clock pulse count as a time to a decoding logic circuit for decoding said stream of serialized AES digital audio data by utilizing the determined time.

Furthermore, page 9 of the Office Action alleges that Adams on page 11, lines 26-28, discloses that the time is determined in the form of a clock pulse count separating the first and

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second transitions. However, Adams relates to the determination of the *pulse width* of the preamble, but does *not* relate to or even suggest determining a clock pulse count separating the first preamble and the subsequent preamble of Applicants' claim 1. (See Adams at page 11, line 21: "This permits robust detection of the three different pulse widths." See also Adams at page 7, line 6: "Fig. 7 is a block diagram of a circuit for detecting the width of transmitted pulses. . . .").

Thus, Adams clearly concerns itself with detecting the pulse width of the preamble and does not suggest the features of applicants' claim 1. In addition to the above quotes from Adams also see pages 8 and 9 which explain Fig. 5 and the three taps. In particular see paragraph 3 of page 9.

Knapp does not cure the deficiencies of Adams as noted above with respect to claim 1. Knapp at column 5, lines 11-21 recites: "Decoder 42 is designed to decode a specific set of bits within the preambles. . . .Counter 44 is a modulo N counter where N clock cycles are the time period between preambles. . . .If a valid preamble is detected after *exactly* N clock cycles, decoder 44 indicates one valid preamble has been detected." Emphasis added.

This disclosure of Knapp differs from Applicants' claim 1, which requires *determining a clock pulse count* separating said first preamble and said subsequent preamble. Although Knapp may *detect* a valid preamble after *exactly* N clock cycles, in contrast to claim 1, Knapp does not disclose or even suggest *determining a clock pulse count* separating said first preamble and said subsequent preamble.

Knapp counts exactly N clock cycles and looks for a preamble. In contrast, applicants' claim 1 looks for the subsequent preamble and determines how many clock pulses occurred between the preambles.

Lydon does not cure the deficiencies of Adams and Knapp as noted above with respect to claim 1. Nor does the Office Action rely on Lydon as disclosing any of the features discussed above.

Accordingly, the combination of Adams, Knapp, and Lydon does not disclose or suggest every feature of claim 1. Therefore, applicants respectfully request withdrawal of the rejection to claim 1 under 35 U.S.C. 103(a).

Claim 4 has been cancelled.

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Claim 5 now recites:

> The method of claim 1, wherein said second transition is detected by counting transitions after the first transition where said first transition and said second transition are separated by thirty-one intervening transitions, wherein said thirty-one intervening transitions are not indicative of said subsequent preamble of said serialized AES digital audio data.

The Office Action at page 2 alleges that Adams on page 4, lines 26-27 discloses that the clock can be generated based on the amount of time that passes between preamble signals and therefore Adams discloses applicants' step of determining a time separating the first and second transitions. At the bottom of page 9 through the top of page 10, the Office Action concedes that Adams does not expressly disclose that the first and second transitions are separated by thirty-one intervening transitions, wherein the thirty-one transitions are not indicative of a subsequent preamble of the serialized AES digital audio data. However, in support of the 35 U.S.C. § 103(a) rejection of claim 5, the Office Action alleges that it is extremely well known that each sub-frame of AES digital audio data includes 32 bits starting with a preamble, and maintains that inherently the first and second transition are separated by 31 intervening transitions which are not indicative of a subsequent preamble of serialized AES audio data.

Applicants respectfully submit that simply knowing that each sub-frame of AES digital audio data includes 32 bits starting with a preamble does not lead one of ordinary skill in the art to modify Adams to arrive at the features of Applicants' amended claim 5. Applicants respectfully submit that a sub-frame of AES digital audio data includes 32 bits is *not* inherent in a broadcast router determining a clock pulse count separating a first and second transition where the second transition is detected by counting transitions after the first transition whereby the first and second transitions are separated by thirty-one intervening transitions and the intervening transitions are not indicative of a subsequent preamble of serialized AES digital audio data.

For example, Applicants' specification at page 2, lines 8-13, recites:

> The time separating the first and second transitions is then determined. *The separation time, which preferably is determined in the form of a fast clock pulse count separating*

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> *the first and second transitions,* may be transferred to a
> decoding logic circuit for use in decoding the stream of
> serialized AES digital audio data. Alternatively, *the separation
> time, again preferably determined in the form of a fast clock
> pulse count separating the first and second transitions. . . .*
> Emphasis added.

Applicants respectfully assert that even if a sub-frame of AES digital audio data included 32 bits starting with a preamble, this is not an inherent aspect of claim 5. The features of Applicants' claim 5 represent a novel approach to enable a serial digital audio decoder to extract timing information from a stream of digital audio data. The Office Action's assertion that each sub-frame of AES digital audio data includes 32 bits starting with a preamble is not an inherent aspect to detecting the second preamble as specifically recited in claim 5. As such, claim 5 patentably distinguishes over Adams in combination with aspects of serialized AES digital audio data.

Knapp and Lydon, separately or in combination, do not cure this deficiency of Adams with respect to claim 5. Therefore, claim 5 patentably distinguishes over Adams, Knapp, Lydon in combination with aspects of serialized AES digital audio data. Applicants request withdrawal of the §103 rejection of claim 5.

Claims 6-9 depend from allowable claim 1 and incorporate the features of claim 1. The examiner has cited Lyle to show an encoder. However, Lyle does not show or suggest "determining a clock pulse count separating said first preamble and said second preamble" as recited in claim 1. Accordingly, Lyle does not cure the deficiencies of the combination of Adams, Knapp, and Lydon in combination with aspects of serialized AES digital audio data as pointed out above. Therefore, Applicants request withdrawal of the rejection of claims 6-9 under 35 U.S.C. 103(a).

Like claim 11, Independent claim 10 recites a broadcast router. Applicants acknowledge that claim 10 differs from claim 1 and requires consideration on its own merits. However, claims 10 include the patentable features of claim 1 as discussed above. For example, claim 10 recites in part: "a decoder circuit coupled to receive a stream of serialized Audio Engineering Society (AES) digital audio data, said decoder circuit extracting time information from said stream of serialized AES digital audio data during the decoding thereof

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wherein said time information is based on determining a clock pulse count separating a first preamble of said stream of serialized AES digital audio data, and a second preamble of said stream of serialized AES digital audio data and utilizing said extracted time information to decode said received stream of serialized AES digital audio data."

Applicants reiterate the above arguments for claim 1 with respect to independent claim 10. Scott does not cure the deficiencies of Adams with respect to claim 10. As such, Applicants respectfully submit that claim 10 is allowable over the combination of cited art and respectfully requests the withdrawal of the rejection of independent claim 10 under 35 U.S.C. 103(a).

Claim 12 differs from claim 1 and requires consideration on its own merits. However, claim 12 includes patentable features of claim 1 as discussed above. For example, claim 12 includes the features of "counting, by a broadcast router, a number of transitions of the serialized AES digital audio data from the first transition until the number of transition reaches a count of 33; counting a number of clock pulses of a clock from the detecting of the first transition of the serialized AES digital audio data until the number of transitions reaches the count of 33, the clock having a higher frequency than a frequency of the transitions of the serialized AES digital audio data."

Fuller discloses an audio data receiver which allegedly counts the number of clock pulses *between transitions*. (Fuller, col. 3, lines 3-4). However, in contrast to claim 12, Fuller does not disclose or suggest counting a number of clock pulses of a clock from detecting the first transition of the serialized AES digital audio data *until the number of transitions reaches the count of 33*.

Lydon does not cure the deficiencies of Fuller with respect to claim 12 as noted above. Accordingly, the combination of Fuller and Lydon does not disclose or suggest every feature of claim 12. Accordingly, applicants request withdrawal of the rejection to claim 12 under 35 U.S.C. 103(a).

Claim 13 has been cancelled.

Claim 14 depends from allowable claim 12 and incorporates the features of claim 12, and is patentable for at least the same reasons as discussed above with respect to claim 12, with dependent claim 14 containing further distinguishing patentable features. Therefore,

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Applicants request withdrawal of the rejection of claim 14 under 35 U.S.C. 103(a).

Conclusion

In view of the foregoing, Applicants solicit entry of this amendment and allowance of the claims. If the Examiner cannot take such action, the Examiner should contact the Applicants' attorney at (609) 734-6820 to arrange a mutually convenient date and time for a telephonic interview.

No fees are believed due with regard to this Amendment. However, if there is a fee, please charge the fee or credit any overpayment to Deposit Account No. 07-0832.

Respectfully submitted,
Carl L. Christensen et al.

By: _____

Robert B. Levy, Attorney
Reg. No. 28,234
Phone (609) 734-6820

Patent Operations
Thomson Licensing LLC
P.O. Box 5312
Princeton, New Jersey 08543-5312

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